

**APPENDIX E:
MOBILE DATA**

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Table 1: Text Messaging and IM Services

Provider	Per-Message		Monthly Price for	IM Service
	Send	Receive	Messaging Packages	(included unless otherwise noted)
Verizon Wireless	10¢	2¢	\$2.99 for 100 \$3.99 for 200 \$7.99 for 600	AOL IM MSN Messenger (offered through Mobile Web plan)
Cingular Wireless	10¢	10¢	\$2.99 for 100 \$5.99 for 250 \$9.99 for 500	
T-Mobile	5¢	5¢	\$2.99 for 500	AOL IM
AT&T Wireless	10¢	Free	\$1.99 for 25 \$4.99 for 100	AOL IM Yahoo! Messenger
Nextel	10¢	10¢	received messages free \$5.00 for 300 \$9.00 for 1000 \$10.00 for unlimited text, AIM, and web use	AOL IM (\$5 per month for unlimited use)
Sprint PCS	NA	NA	\$15 per month for all PCS Vision applications	

Sources:

Text Messaging: Verizon Wireless, *Mobile Messenger Service: Overview* (visited Jan. 17, 2003) <<http://www.verizonwireless.com/jsp/mobilemessenger/index.jsp>>; Cingular Wireless, *Text Messaging Pricing* (visited Jan. 23, 2003) <http://www.cingular.com/beyond_voice/tm_pricing>; T-Mobile, *2-Way Text Messaging* (visited Jan. 24, 2003) <<http://www.t-mobile.com/2waytxt/>>; AT&T Wireless, *Phone Fun Messaging* (visited Jan. 27, 2003) <http://www.attws.com/personal/txt_msg/messaging/text/>; Sprint PCS Vision, *How Can I Use It?* (visited Jan. 28, 2003) <<http://www.pcsvision.com/howcan.html>>; Sprint PCS, *PCS Service Plans: Select Your Plan* (visited Jan. 28, 2003) <<http://www1.sprintpcs.com/explore/servicePlansOptionsV2/PlansOptions.jsp>>; Nextel, *Nextel Mobile Messaging* (visited Feb. 4, 2003) <<http://www.nextel.com/services/mobilemessaging/index.shtml>>.

IM: Verizon Wireless, *Mobile Messenger Service: Instant Messaging* (visited Jan. 17, 2003) <<http://www.verizonwireless.com/jsp/mobilemessenger/instantmessaging.jsp>>; T-Mobile, *2-Way Text Messaging* (visited Jan. 24, 2003) <<http://www.t-mobile.com/2waytxt/>>; AT&T Wireless, *Phone Fun Instant Messaging* (visited Jan. 27, 2003) <http://www.attws.com/personal/txt_msg/messaging/instant/>; Nextel, *Nextel Mobile Messaging* (visited Feb. 4, 2003) <<http://www.nextel.com/services/mobilemessaging/index.shtml>>.

Table 2: Mobile Internet Access Services

Carrier/ Provider	Plan	Network	Data, or Voice Add- On?	Measure- ment	Service Specific?	Device Specific?
Verizon Wireless	Express Network Buckets	1xRTT	Add-on	Minutes		1xRTT phone, Thera smartphone
	Express Network Per-MB	1xRTT	Data	MB	Internet Access	1xRTT phone, Aircard 555 card, or Thera smartphone
	Express Network Unlimited	1xRTT	Data	Unlimited	Internet Access	
	Mobile IP	2G	Data	Unlimited	Internet Access	CDPD wireless modem card
	Mobile Web	2G	Add-on	Minutes	Text, IM, Web, E-mail	Web enabled phone
	Mobile Web Plus	2G	Add-on	Minutes	Text, IM, Web, E-mail	Kyocera smartphone
	Get It Now	2G with BREW	Add-on	Minutes	Ring tones, Games, Web, MMS	Get It Now-enabled phone
Cingular Wireless	Wireless Internet	2G	Add-on	Minutes	Info alerts, Web	Web enabled phone
	Wireless Internet Express	GPRS	Add-on or data	MB	Internet access	GPRS phone or Treo smartphone
Nextel	Web	2G	Add-on	Unlimited or minutes	Info alerts	Web enabled phone
	Premium Web	2G	Add-on	Unlimited or minutes	IM, Web, E-mail	Web enabled phone
	Full Service Package	2G	Add-on	Unlimited or minutes	Text, IM, Web, E-mail (corp)	Web enabled phone
	Packetstream	2G	Data	MB	Internet access	Phone or iM1100 card
	Packetstream Gold	2G	Data	Unlimited	Internet access	Phone or iM1100 card
	Dial-Up Service	2G	Add-on	Minutes	Web, E-mail, web, Corp server	Phone connected to PC or PDA
T- Mobile	T-Zones	GPRS	Add-on	MB	Web, Ring tones, Games, MMS, E-mail (POP3)	GPRS phone
	T-Zones Pro	GPRS	Add-on	MB	Web, Ring tones, Games, MMS, E-mail (corp)	GPRS phone
	T-Mobile Internet	GPRS	Data	MB	Internet Access	GPRS phone or modem card attached to PC or PDA
	Sidekick plans	GPRS	Add-on	Voice minutes Unlimited data	Text, IM, MMS, Web, E-mail	Sidekick smartphone
AT&T	mMode	GPRS	Add-on or	MB	Games, MMS,	GPRS phone

Wireless			data		Ring tones, Web, E-mail	
Sprint PCS	PCS Vision	1xRTT	Add-on	Unlimited	Text, Ring tones, MMS, Web, E-mail (corp)	1xRTT phone
	Vision for laptops and PDAs	1xRTT	Data	MB Unlimited	Internet access	1xRTT phone, smartphone, or wireless modem card
Go America	Data – All RIM	Mobitex/GPRS	Data	Unlimited	Web, BlackBerry email	RIM 950, 857, 957 RIM 5810
	Data – RIM 5810	GPRS	Data (must purchase sep voice plan)	MB: Unlimited:	Web BlackBerry email	RIM 5810
	Data & Voice – RIM 5810	GPRS	Data with voice	Unlimited: MB: Minute:	BlackBerry email Web Voice	RIM 5810
	Data – GPRS	GPRS	Data	MB	Internet access	G100 GPRS card for laptops and Pocket PCs
	Data – 1xRTT (offered by Earthlink)	1xRTT	Data	MB	Internet access	Aircard 555 card for laptops
Earthlink	Internet access for PDAs	2G - CDPD	Data	Unlimited	Internet access	Certain PDAs - Monthly prices vary by PDA
	Internet access for RIM	Mobitex	Data	Unlimited	BlackBerry email, web access is extra	RIM 950, 857, 957
	Data – 1xRTT (same as above)	1xRTT	Data	MB	Internet access	Aircard 555 card for laptops

Sources: The information in the table is a sample of mobile Internet access services offered by selected mobile data providers in March 2003 and should not be considered an exhaustive list. The information was taken from company web sites, news releases, and newspaper and periodical articles.

Table 3: Mobile Service Availability by Device*

Application/ Feature	Type of Device				
	Pager	Mobile Phone	Smartphone	PDA	Laptop
Voice		✓	✓		
Paging	✓	✓	✓		
Text Messaging	✓	✓	✓	✓	
Information Alerts	✓	✓	✓		
Ring tones & Graphics		✓	✓		
Games		✓	✓		
Images & Video		✓	✓	✓	✓
Web Browsing – Limited		✓	✓		
Web Browsing - Complete			✓	✓	✓
E-mail – POP3		✓	✓	✓	✓
E-mail – corporate			✓	✓	✓
Corporate server access			✓	✓	✓
QWERTY Keypad			✓	✓	✓
Color		✓	✓	✓	✓

* The above table provides an overview of the applications and features that are available on at least one model of the device categories included in the table. It is not meant to imply that the marked applications and features are available on every model within the device category.

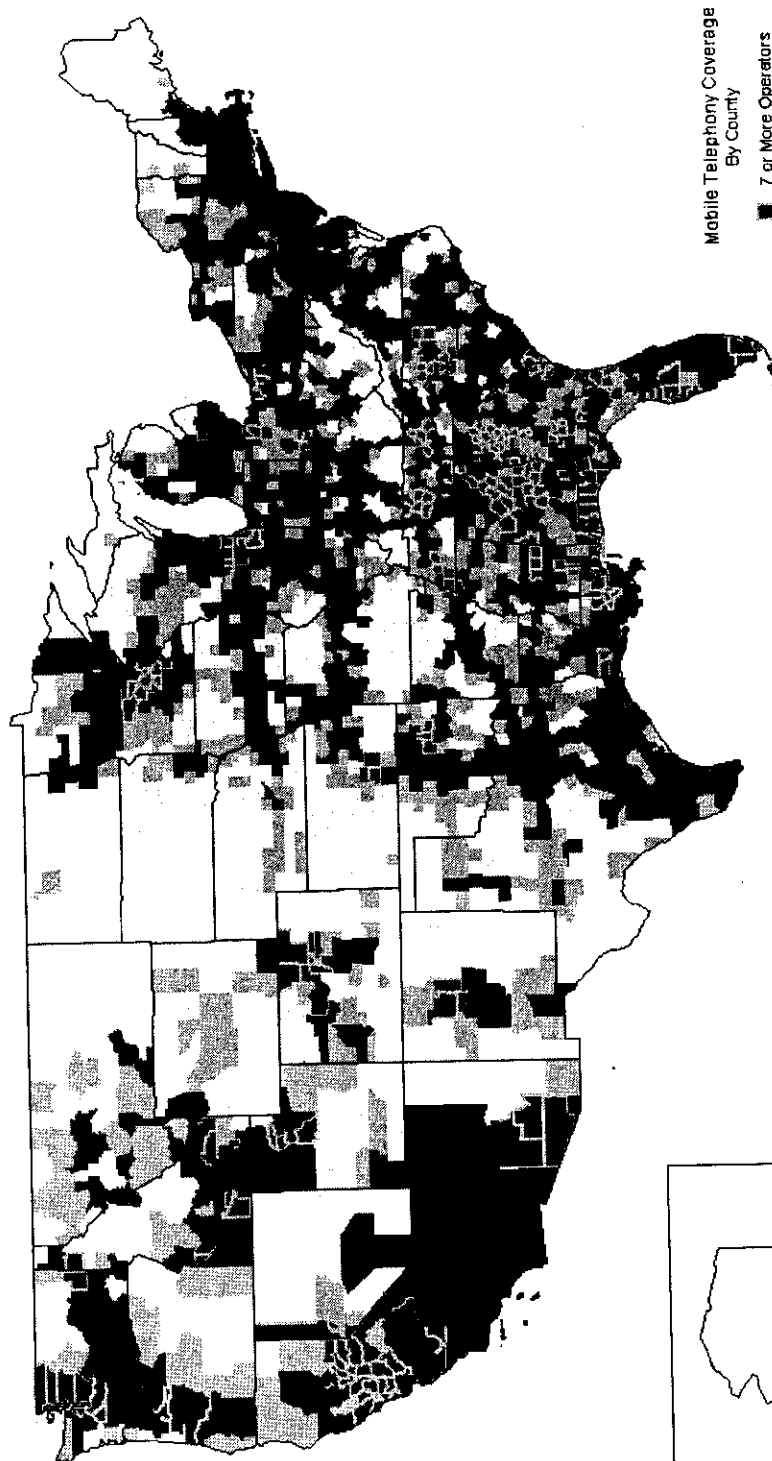
Sources: The information was taken from company web sites, news releases, and newspaper and periodical articles in February and March 2003.

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Map 1

Mobile Telephone Operator Coverage Estimated by County

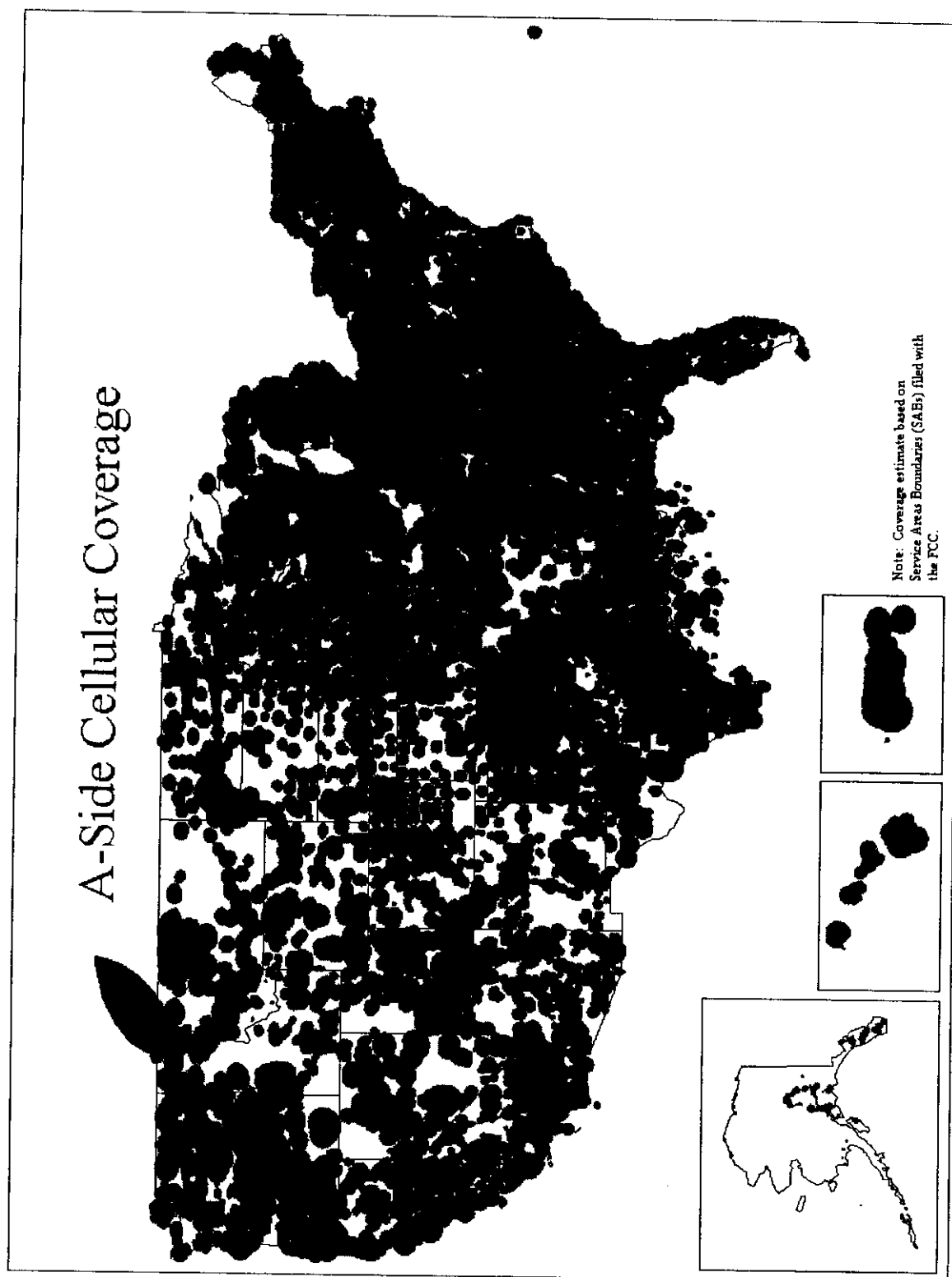


Mobile Telephony Coverage
By County

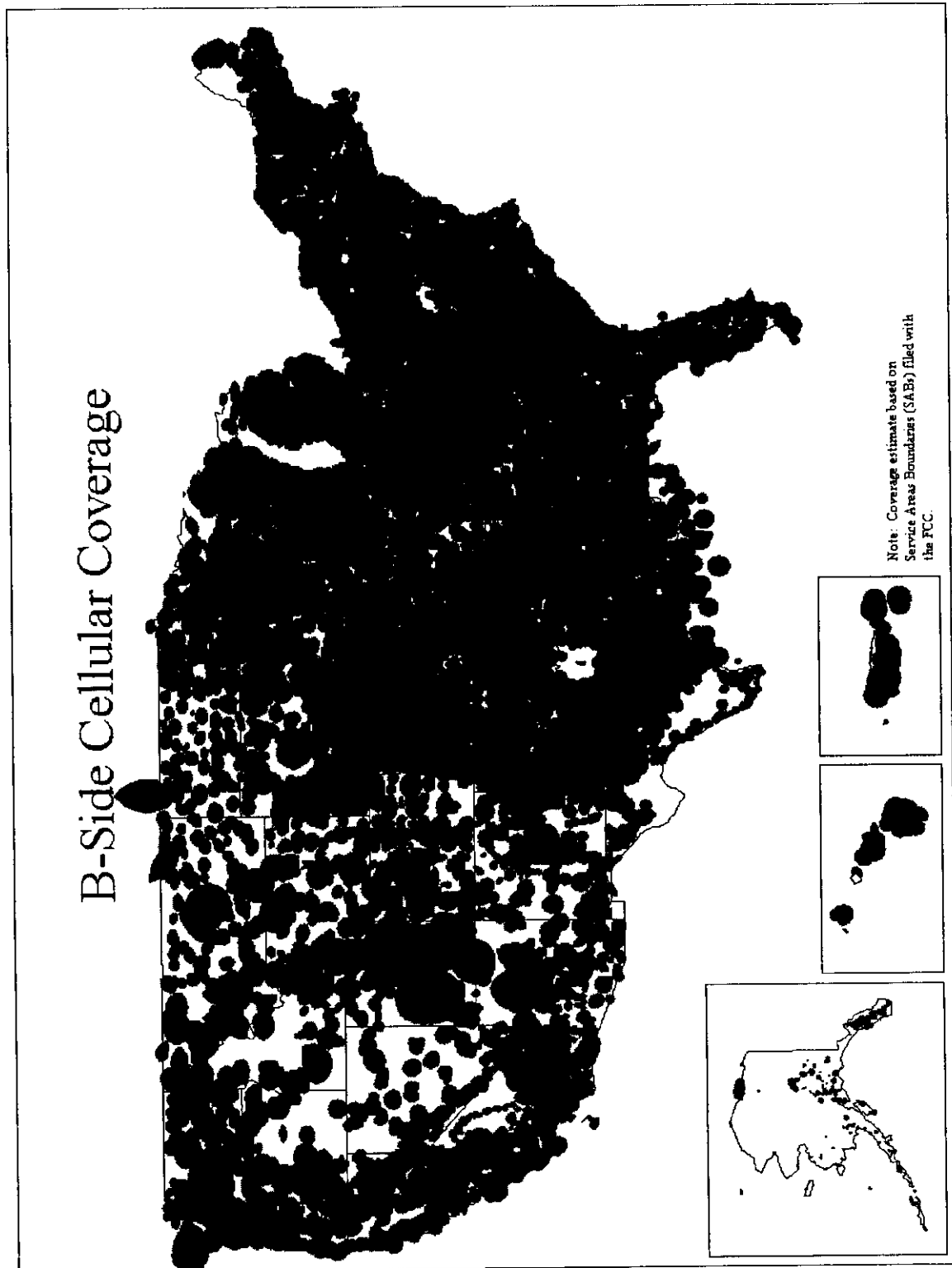
- 7 or More Operators
- 6 Operators
- 5 Operators
- 4 Operators
- 3 Operators
- 2 Operators
- 1 Operator
- 0 Operators

Sources: Cellular coverage based on the Service Area Boundaries reported to the FCC by cellular operators. Coverage by broadband PCS and digital SMR operators based on publicly available sources.

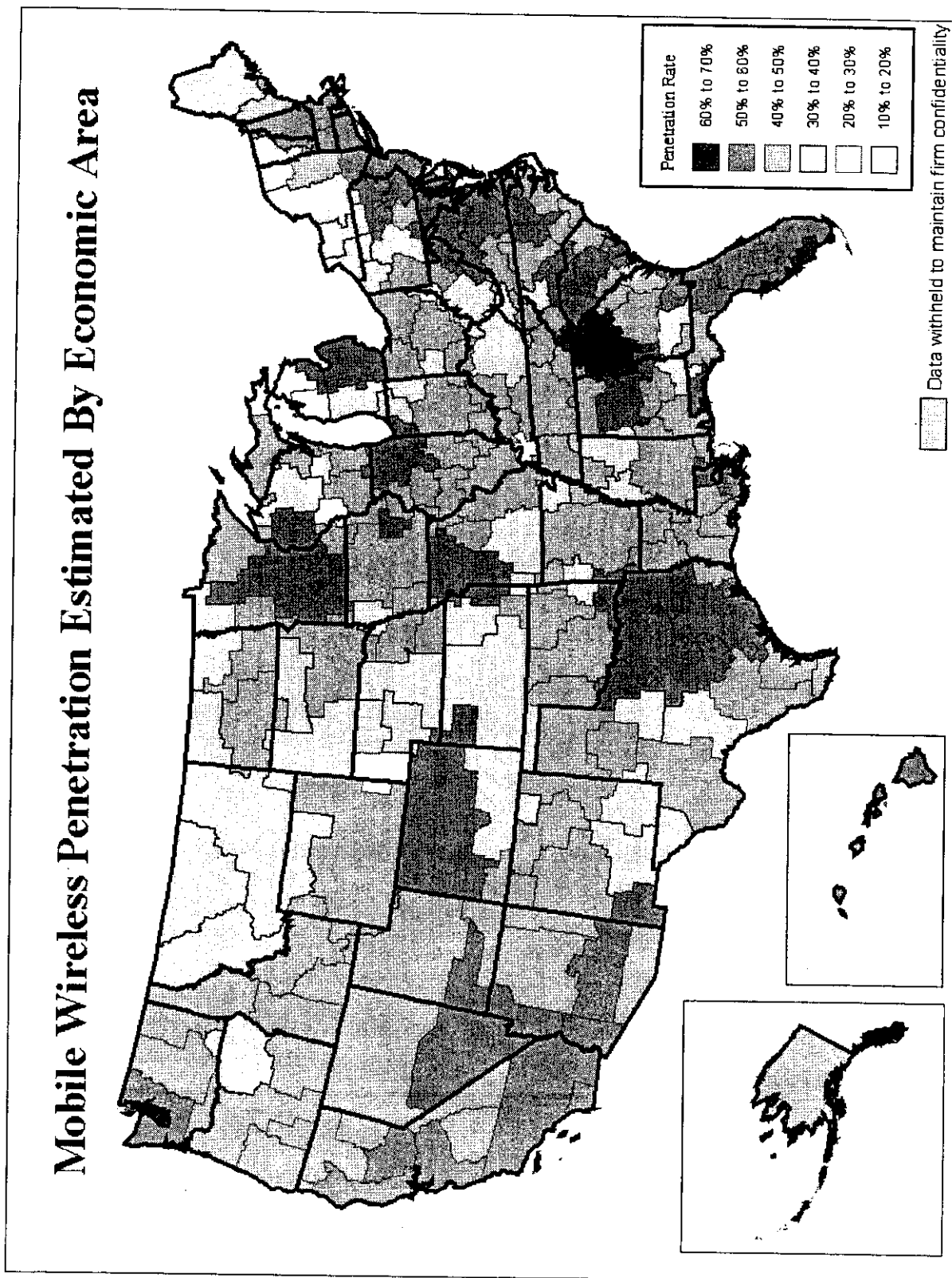
Map 2



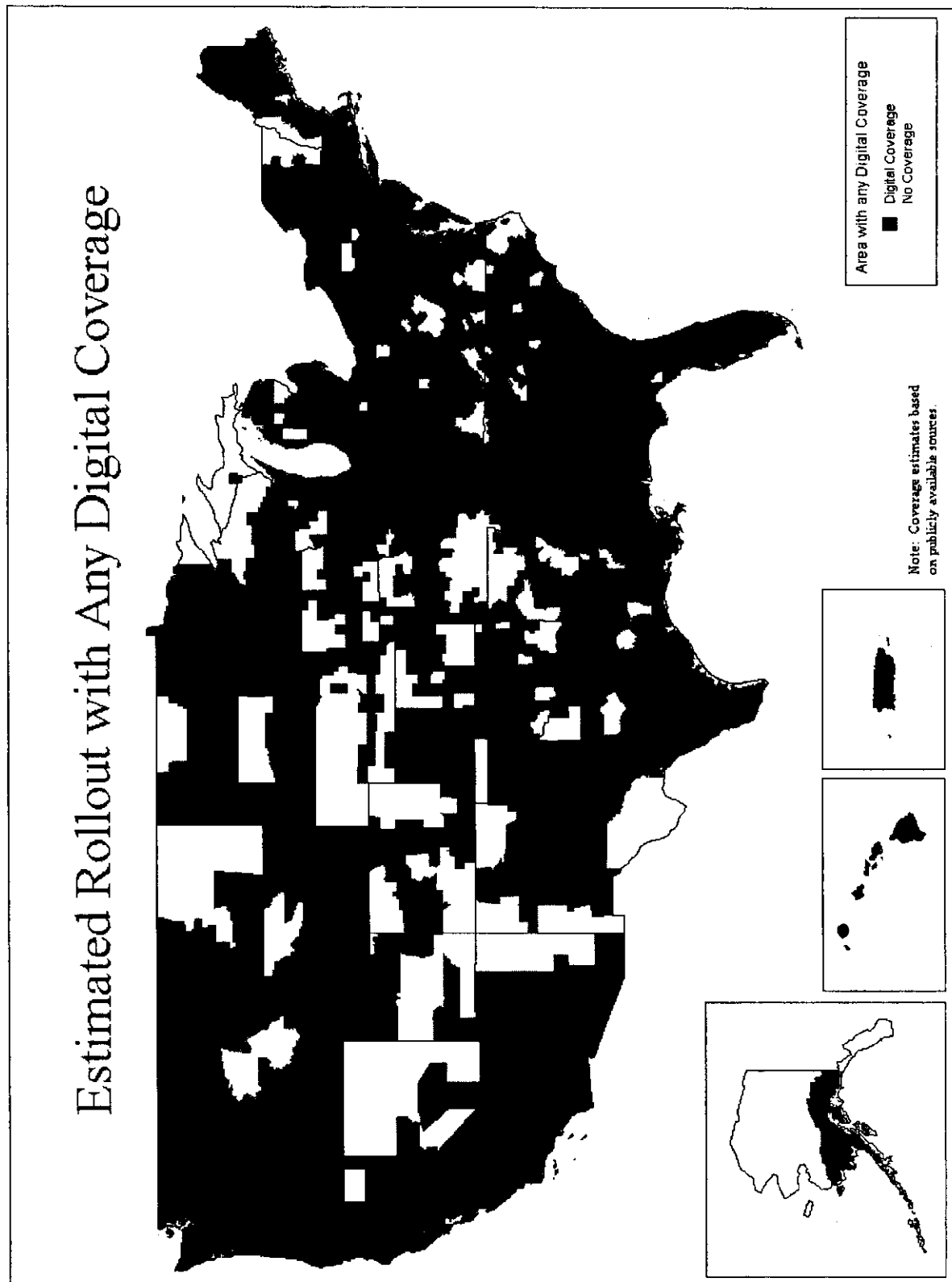
Map 3



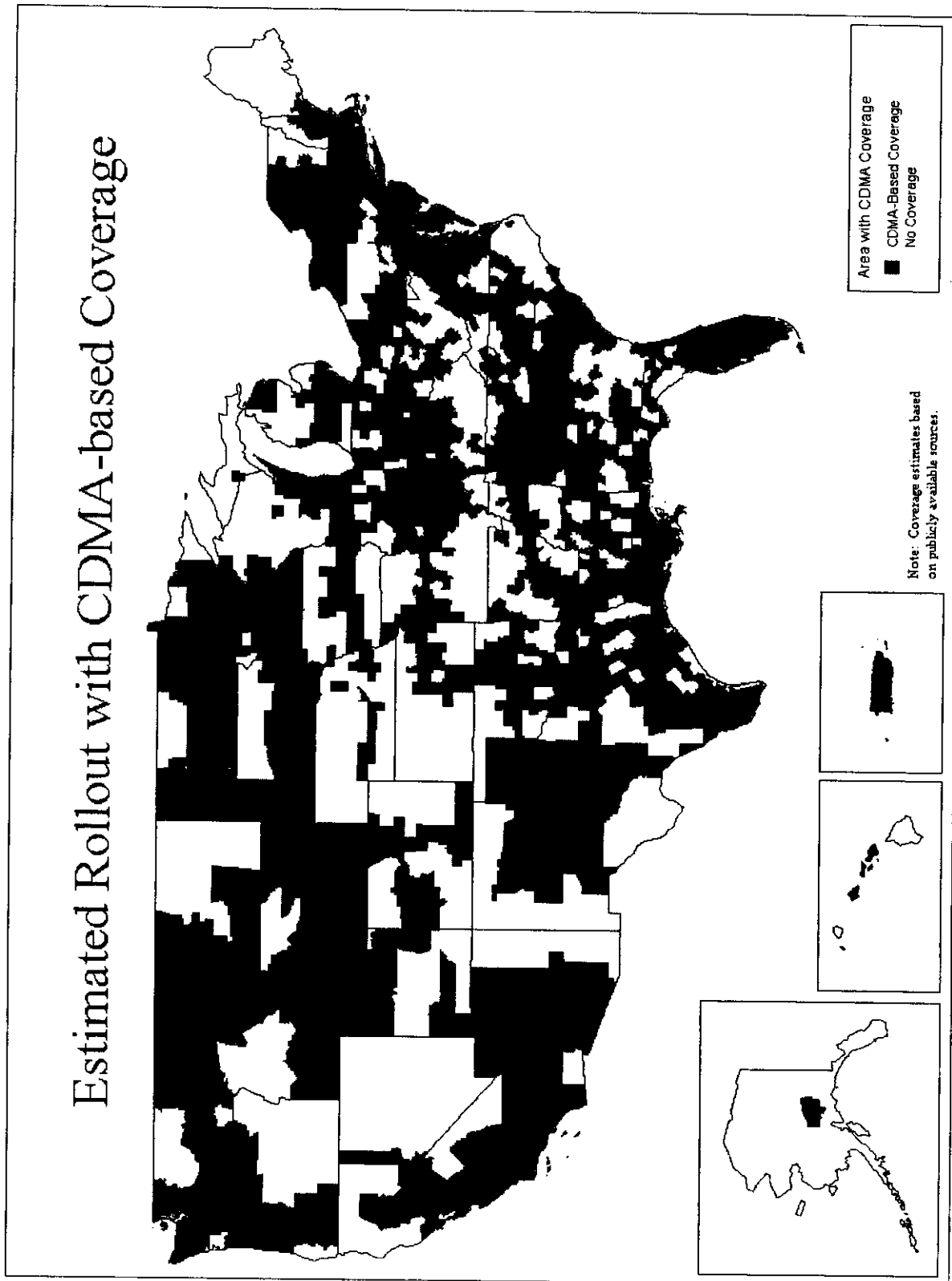
Map 4



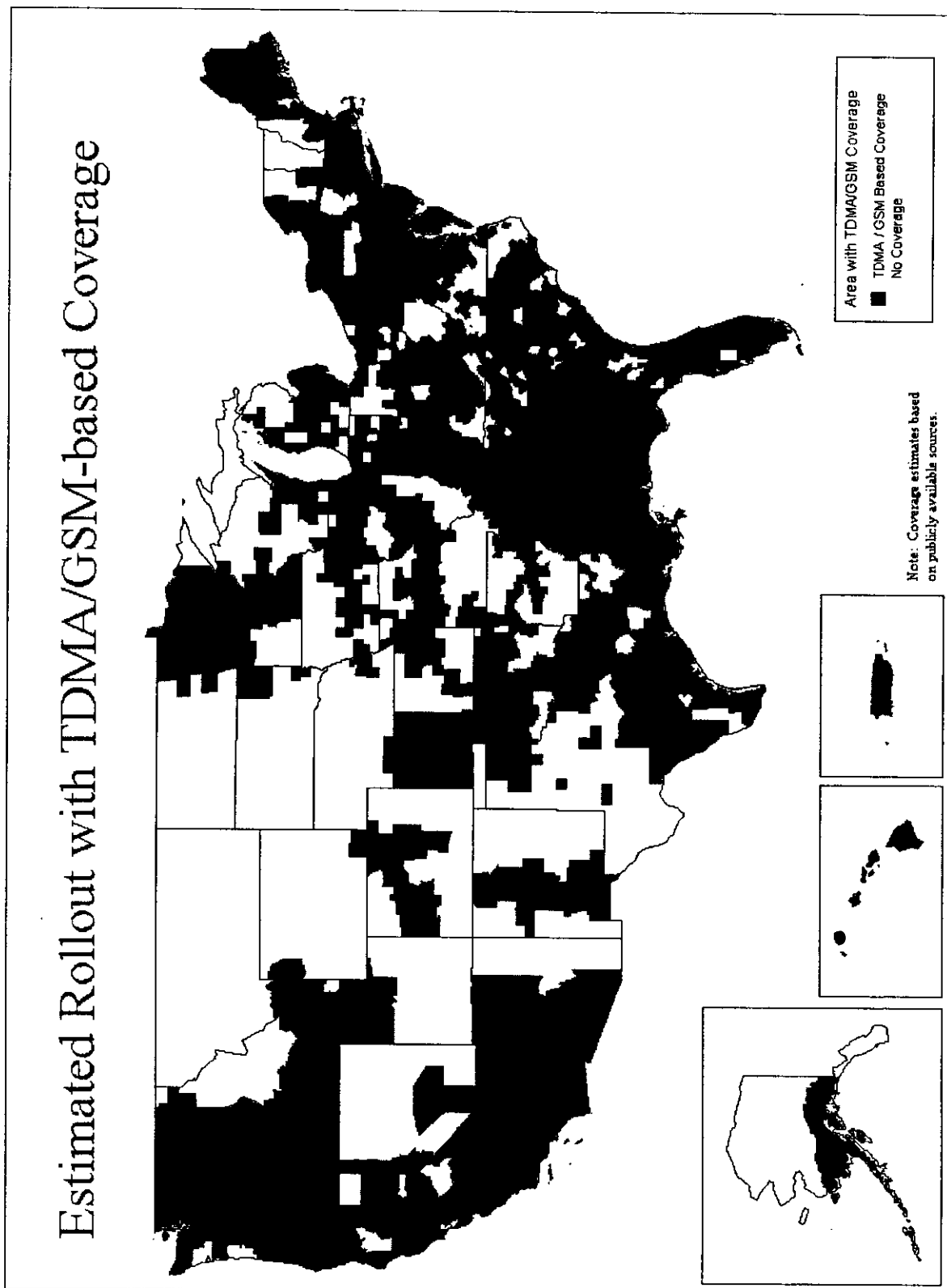
Map 5



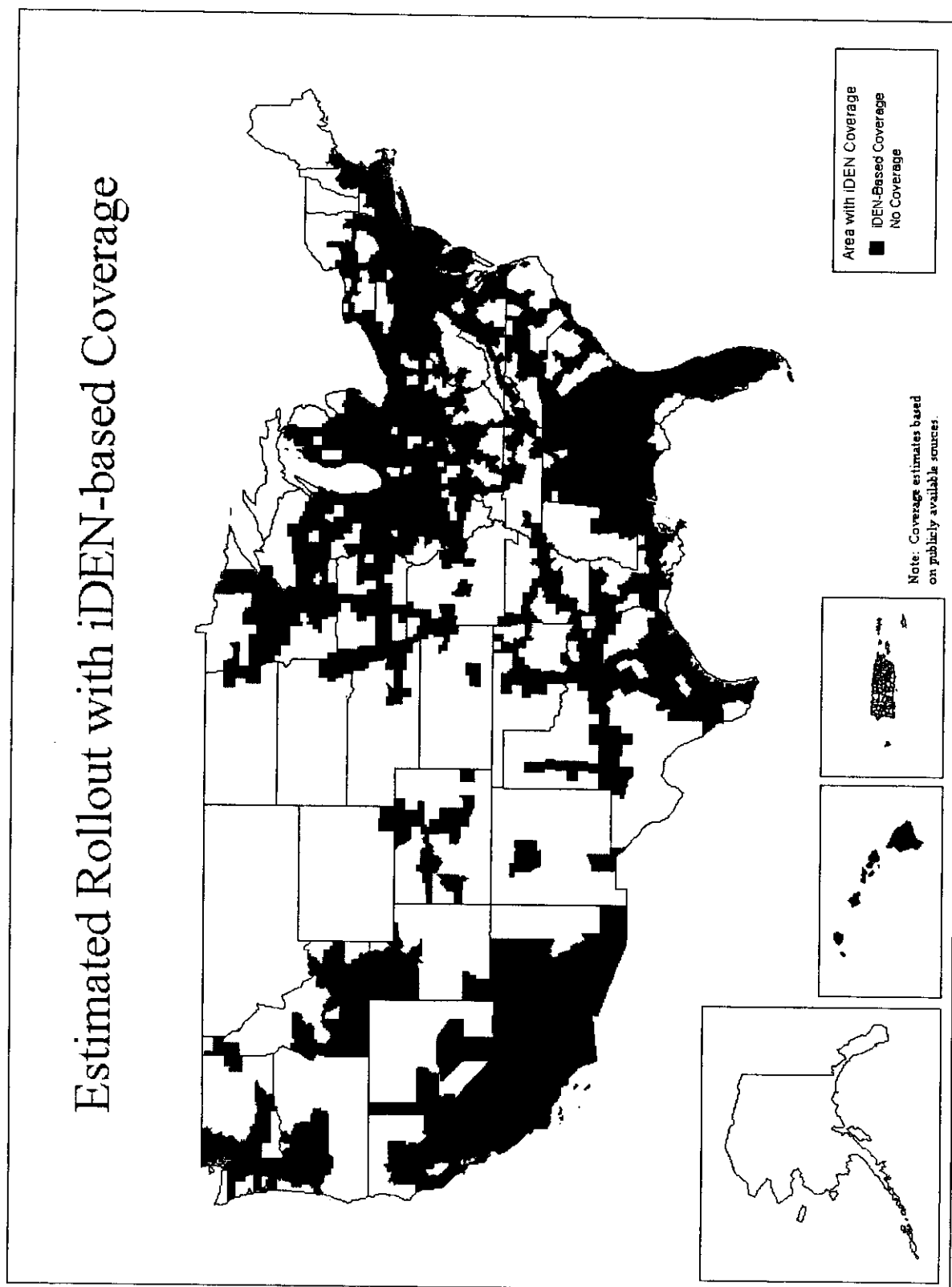
Map 6



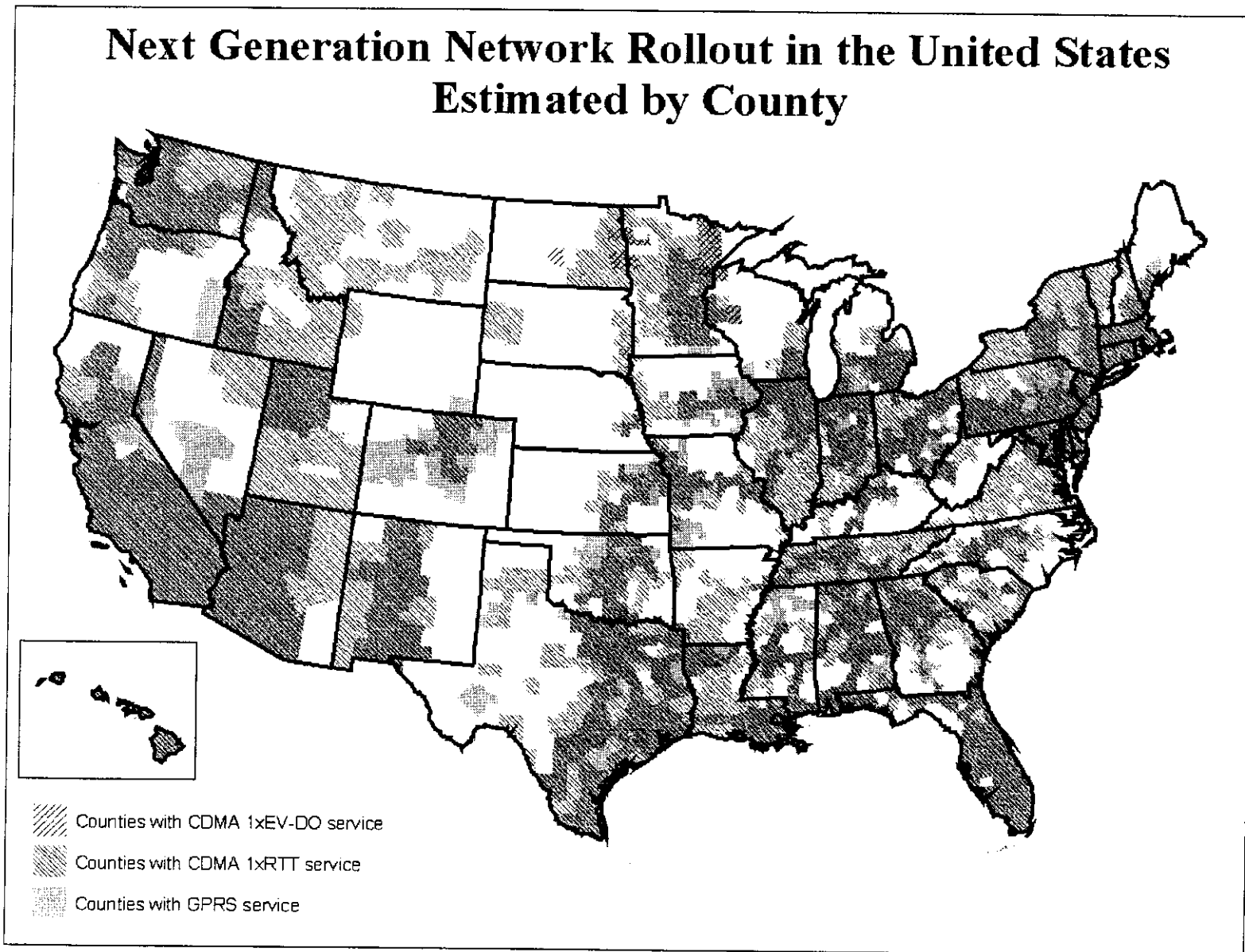
Map 7



Map 8



Map 9



Map 10

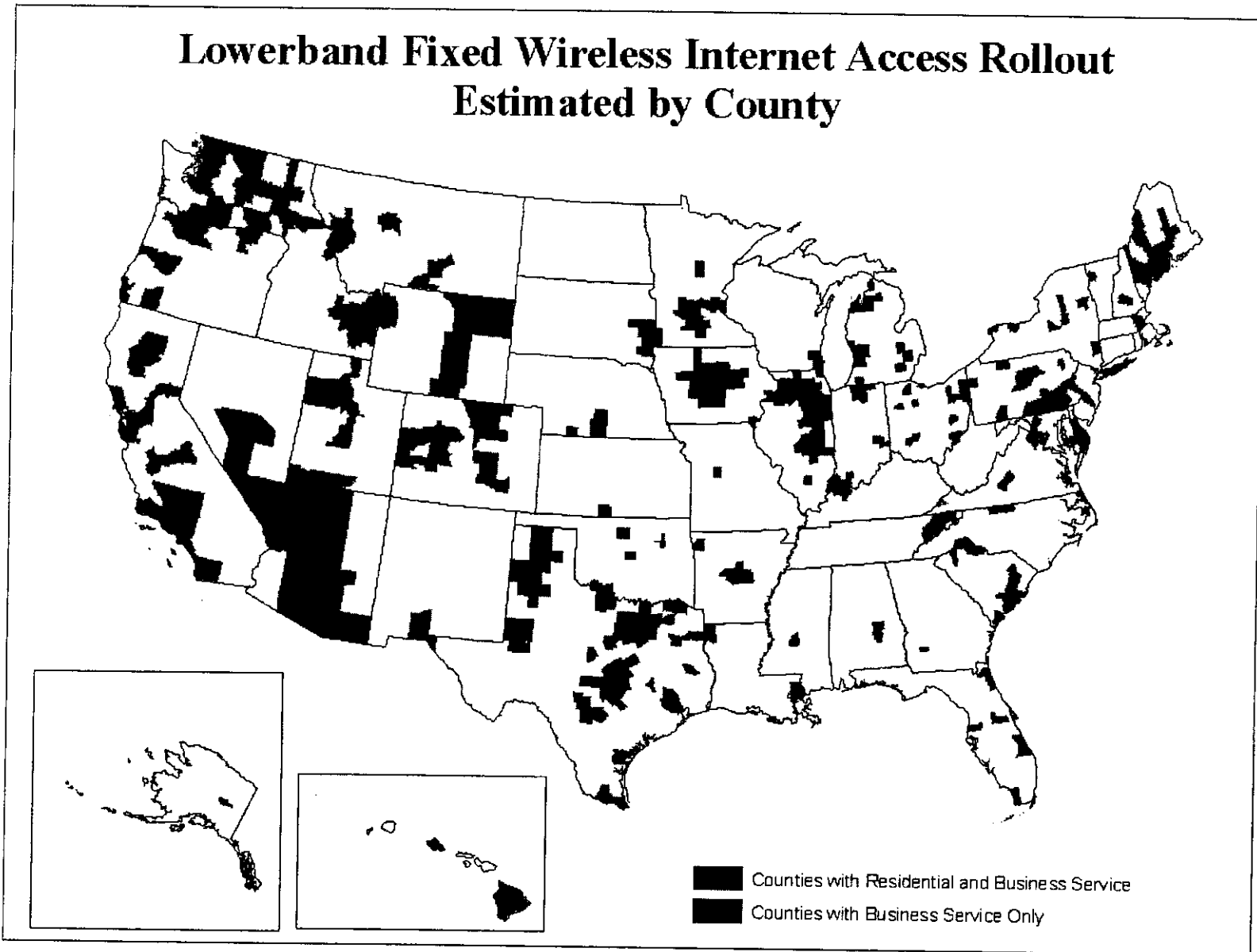
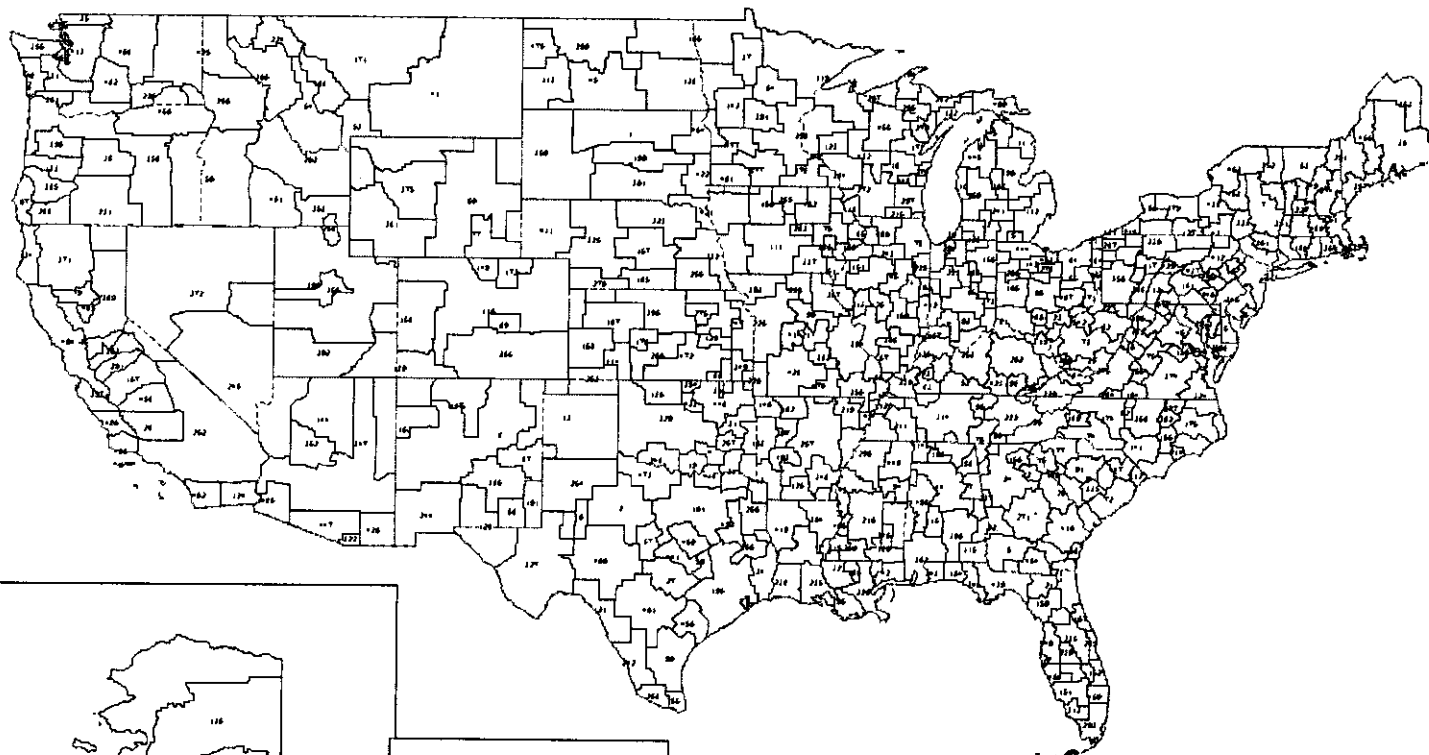


Table 1: Geographic Licensing Schemes

Geographic Licensing Schemes	Number of Market Areas	Note
Basic Trading Areas (BTAs)	493	BTAs make up MTAs
Major Trading Areas (MTAs)	51	
Cellular Market Areas (CMAs)	734	Also known as MSAs and RSAs
Economic Areas (EAs)	175	

The 493 Basic Trading Areas (BTAs)

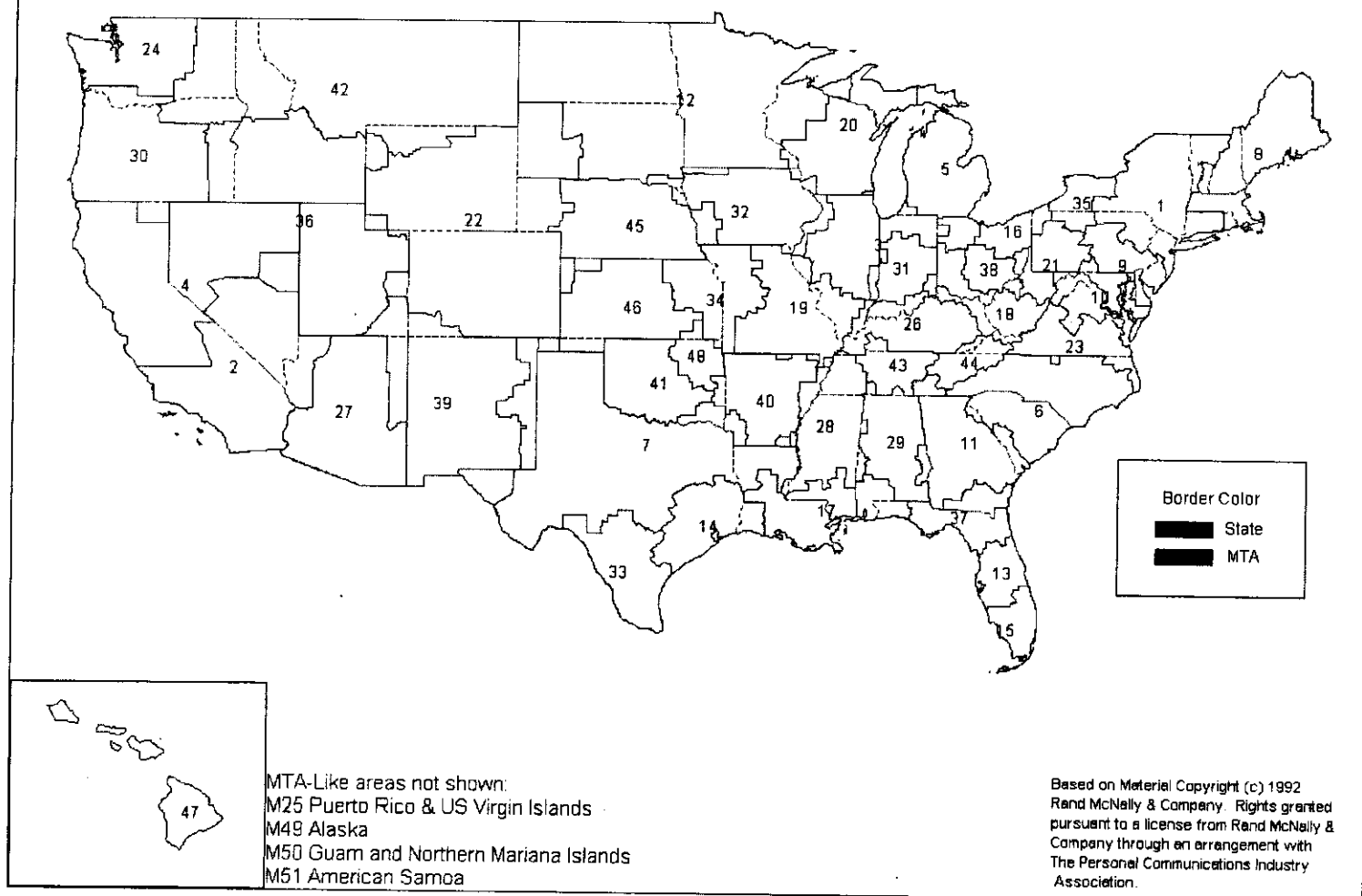


BTA-Like areas not shown:
B488 San Juan, PR
B489 Mayaguez, PR
B490 Guam
B491 US Virgin Islands
B492 American Samoa
B493 Northern Mariana Islands

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Map 12

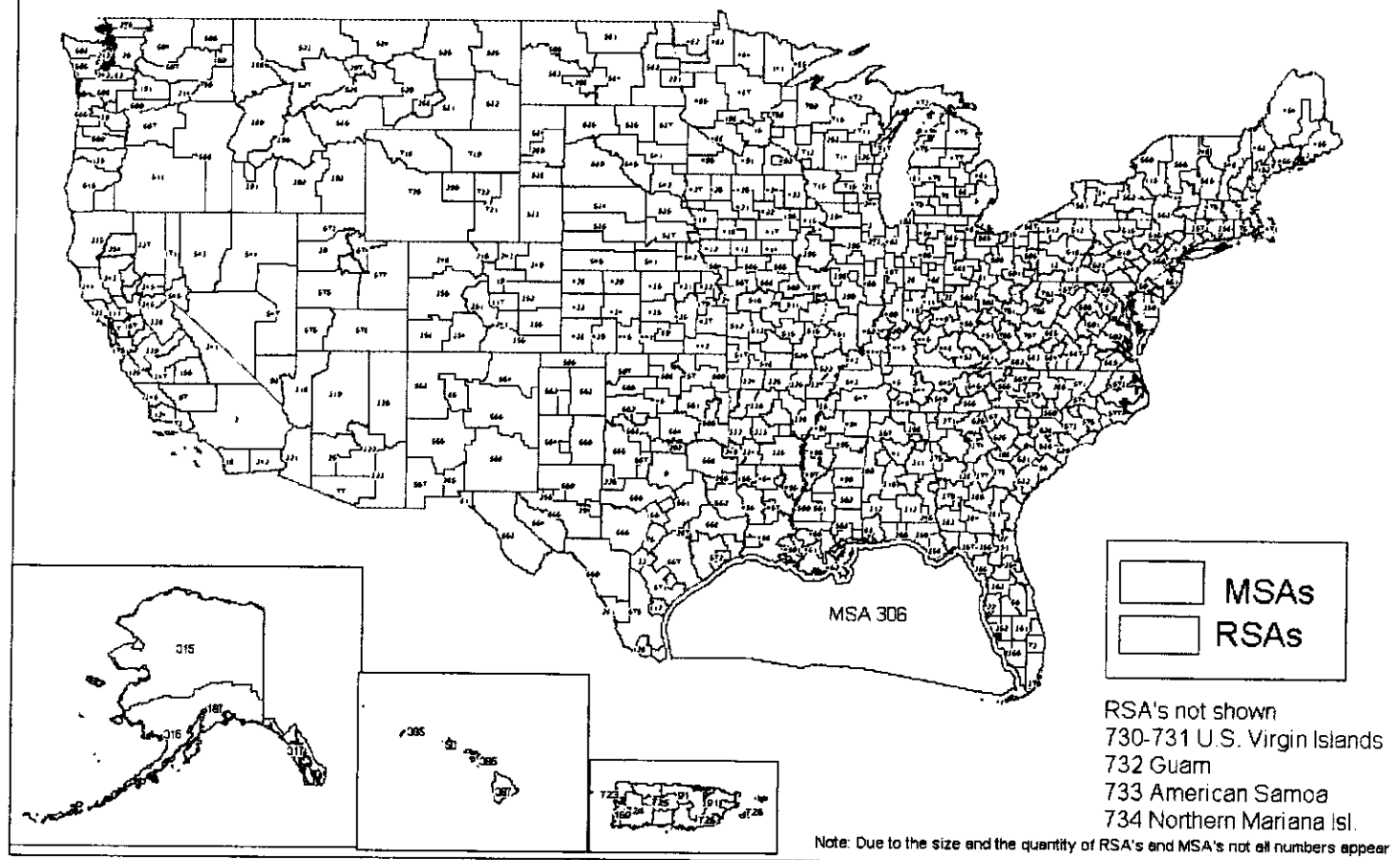
The 51 Major Trading Areas (MTAs)



Map 13

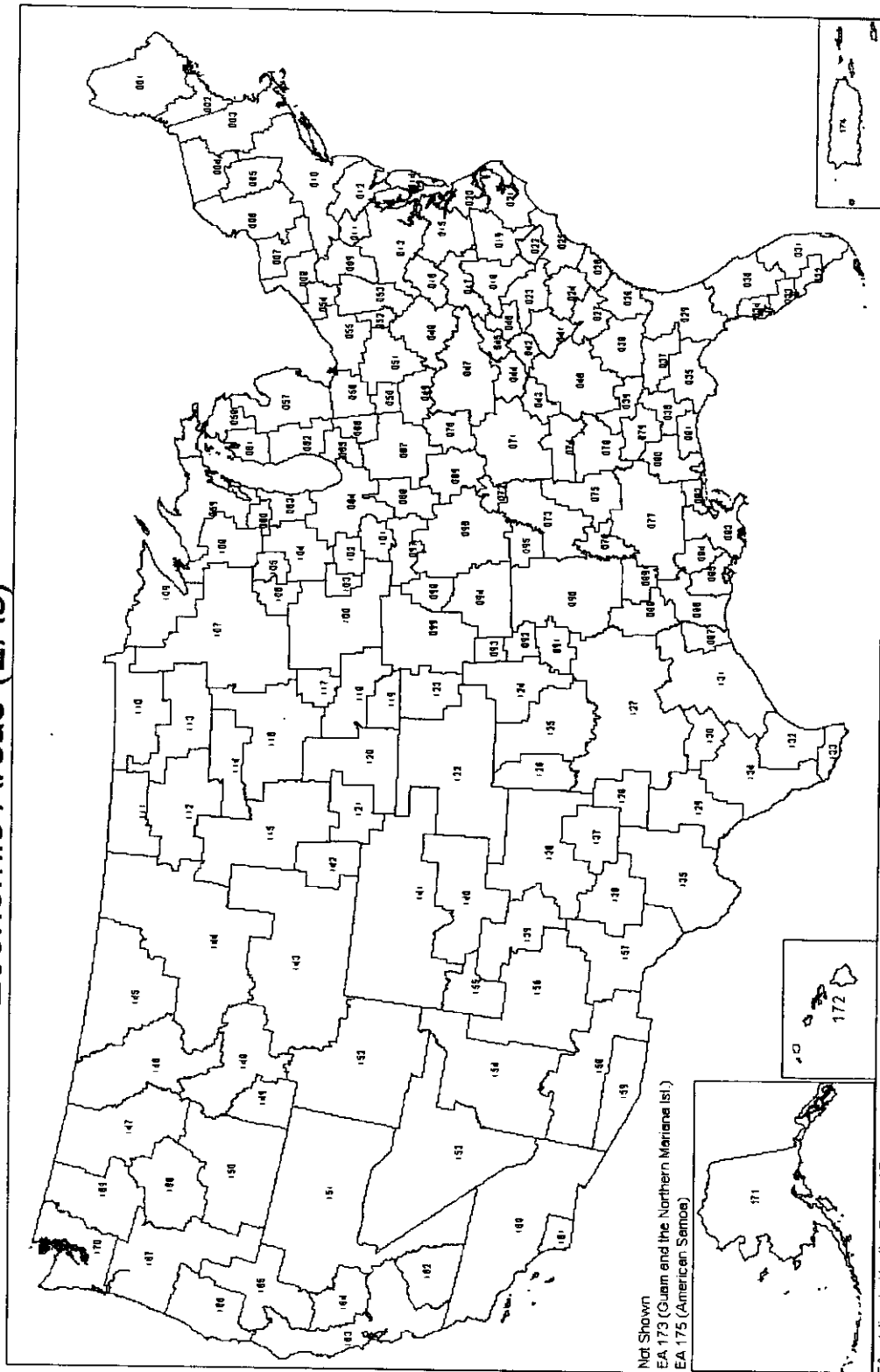
Cellular Market Areas

Metropolitan Statistical Areas and Rural Service Areas



Map 14

Economic Areas (EAs)



**APPENDIX G:
LIST OF COMMENTERS**

Comments

3G Americas LLC
CDMA Development Group
Cellular Telecommunications & Internet Association
Dobson Communications Corporation
Fred Williamson & Associates, Inc.
John A. Ball
Mobile Satellite Ventures Subsidiary LLC
Montana Telecommunications Association
National Telecommunications Cooperative Association
Rural Telecommunications Group

Reply Comments

CDMA Development Group
Fred Williamson & Associates, Inc.
South Dakota Telecommunications Association
T-Mobile USA, Inc.
Virgin Mobile USA, LLC
Western Wireless Corporation

Ex Parte Filings

Rural Telecommunications Group
Consumers Union

**SEPARATE STATEMENT OF
CHAIRMAN MICHAEL K. POWELL**

Re: Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services (Eighth Report)

The annual analysis of the CMRS market demonstrates how a lighter regulatory hand has ushered in innovation and technological advancement, and the power of facilities-based competition into the marketplace. Today 95% of American consumers now have three or more choices in wireless providers, and a stunning 71% have six or more choices. And with this wealth of choices have come lower per minute prices and more innovative services. The conclusion is inescapable: the wireless industry is highly competitive. The Report, however, notes that rural areas have fewer competitors than urban areas. I look forward to working with my colleagues to develop policies that will enhance the effectiveness of competition in rural areas by removing unnecessary regulatory barriers to facilitating the deployment and delivery of spectrum-based services in these areas. This is the most comprehensive wireless competition report that the Commission has ever produced and I applaud the efforts of the Wireless Bureau to update, verify, and diversify our data to better capture the state of the marketplace.

**CONCURRING STATEMENT OF
COMMISSIONER MICHAEL J. COPPS**

*RE: Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993;
Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial
Mobile Services.*

Congress requires the Commission annually to "review competitive market conditions with respect to commercial mobile services" and "include in its annual report an analysis of those conditions," in order to perform an "analysis of whether or not there is effective competition." I believe that the Commission could do far better. The Report's contains insufficient data. Much of the limited data included are unverifiable and are derived from sources with a stake in the outcome of our determination. And the Commission does not establish any standard for determining when "effective competition" exists or even to define what "effective competition" is. These problems leave the Report vulnerable to the charge of being results-oriented, and mean that the hard and good work of the Commission's staff is underutilized.

The limited data that we do have show that in urban areas wireless prices are dropping and carriers are expanding their networks. That's great news, and I believe that better data and a better standard for analyzing this data would yield results that would show that in many areas the competition that characterizes the wireless market is something to strive for as the FCC pursues wireline competition policy. But half of the country is still served by three or fewer competitors. And one quarter of all US counties have two or fewer competitors.

In this context, and because we need the ability to analyze competition changes if wireless mergers occur, the nature and sources of our data trouble me, especially in the Enron era, when the use of hard to verify corporate data and Wall Street analysts' reports is under close scrutiny. The Report is largely based on unverified corporate press releases and advertisements, surveys conducted by industry lobbying organizations, unverified Wall Street analysts' reports that may be influenced by the stock holdings of those analysts' firms, SEC filings that are not designed for this purpose, and newspaper reports.

I believe that the Commission must gather more independent, verified data to do its job effectively. But the Commission does not gather any of its own data for this report. To their credit, our staff recognized the natural limitations of its data sources and generated some creative solutions to counteract a subset of the inadequacies of the publicly available sources. For instance, this year's Report was improved by data from the Number Resource Utilization/Forecast ("NRUF") database and the ULS Database. Using these new sources of information, aside from strengthening the integrity of the Report, underscores the reliability and utility of data directly collected by the FCC, as opposed to data generated by interested parties. But FCC-collected data is just not available for most of the critical questions the Report addresses.

This year the Commission staff also tried to gather more information through a NOI that asked for more data from our licensees. But as the Report states, the Commission did not receive from licensees any new data on subscribership, ARPU, usage, churn, or pricing, or maps of their coverage areas. In other words, we asked industry to help us with our effort and they said "no."

If industry will not assist us in this effort, I believe that the Commission has a responsibility to contract with outside, independent researchers to gather the following data. First, we need independent data on wireless prices. We currently have no pricing data at all on smaller markets, and rely instead on pricing in the most competitive, biggest markets as a proxy for the least competitive, smallest markets. This does not make sense. Second, we need reliable data on the number of competitors in various markets. Today we treat an entire county as served by a company if that company advertises that they serve any part of the county, even just a highway skirting the edge of a county. We say that consumers in a county have two competitors to choose from even if the service areas of those competitors don't overlap at all in the county. Again, this does not make sense. Third, we need independent, annual data on quality of service. Quality of service, price and investment are three critical indicia of competition, and we need to understand all three. Specifically, we need data on dropped calls, service unavailability, and poor connections. Without this basic information, the Commission cannot make conclusions on competition that withstand scrutiny.

I am not alone in thinking that we must improve. In April, the GAO released a report that found that the Commission does not gather any data on call quality despite its importance to consumers. The GAO Survey states that the Commission must begin to include quality of service analysis in its competition report and that "[d]ata sources other than consumer surveys would be useful in assessing the extent of mobile phone quality problems; however, these data were either not available or were of limited usefulness because they were not collected systematically." I share the GAO's broad concern that our data collection is inadequate and that we should make data on call quality available to this public. If it is somehow too financially burdensome on the Commission to gather adequate data, we should explain our plight to Congress and ask for the needed budget resources. But this is too important to ignore.

In considering the benefits of a more comprehensive and intensive data gathering effort, I also want to note that the British regulatory agency gathers far more information for the benefit of its wireless consumers than does the FCC. While I am not at this time suggesting that we should follow OFTEL's practice of requiring licensees to submit reports, as part of its ongoing monitoring of competition in the British wireless industry, OFTEL conducts quarterly surveys of mobile phone users. OFTEL has used the information it collects on network performance and other factors to determine whether there is effective competition among carriers. We should find a way to gather similar data. If this is somehow too financially burdensome on the Commission, we should explain our plight to Congress and ask for the needed budget resources.

I also believe that we must establish a definition of "effective competition" and a standard for determining when such competition exists. How can we do the job Congress gave us without doing so? Admirably, the Report includes a long list of possible indicia of competition, including price, expansion of networks, investment levels, churn, quality of service, subscriber growth, usage rates, and ARPU. But merely listing possible relevant areas of inquiry is far different from having a rigorous method of determining whether current market characteristics mean that there is adequate competition. We don't say whether one factor is more important than another, how they relate to each other, or whether regional differences matter at all in the overall competitive determination. Without more rigor, without an articulated "effective competition"

standard, the Report is of limited use in providing an analytically solid foundation for Commission or Congressional action.

Without adequate data and without a clear explanation of how we determine adequate competition, I cannot support the reasoning contained in this item, and must only concur in the result. I do want to thank the Wireless Bureau staff, however, for another fine job this year. They work hard, and do good work with the resources they have. The report is very important, and your work is very important, which is why I focus so much on it every year. Thank you.